Inpatient Care for Colorectal Patients

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Learning Objectives

- Demonstrate understanding of various types of bowel preparation prior to colorectal procedures
- Demonstrate understanding of postoperative care for patients after a PSARP/PSARVUP
- Demonstrate basic understanding of Hirschsprung disease and treatment for Hirschsprung's associated enterocolitis
- Demonstrate understanding of the Malone/Neo-Malone procedure, site care and how to perform a Malone flush

Preparing for a Pre-Admit

Supplies

- Intravenous fluids and pump
- Enteral feeding pump and bag
- Nasogatric feeding tube (8 Fr- usually large enough for anyone- Golytely is thin)
- Adhesive dressing (Tegaderm)
- Syringe to check placement
- IV and lab supplies

Start cleanout ASAP- may take hours to become clear.

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Bowel Preparation prior to Surgery

- Full bowel prep involves NG Golytely, clear liquid diet and IV fluids
- Goal for full bowel prep is for stool to be clear yellow without sediment
- Colostomy closure: no bowel prep, only stoma irrigations, clear liquid diet

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Bowel Prep Modalities

- Nasogastric tube with Golytely
- Rectal irrigations
- Ostomy irrigations

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Bowel Prep

Golytely via nasogastric tube

- Start slow then ramp up
- Rate of 25 ml/kg/hr (max 300 ml/hr) x 4 hr
- If distended may need to start rectal irrigations to facilitate cleanout

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Is a rectal enema the same thing as a rectal irrigation?

1. Yes
2. No
3. I don't know

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A 4-year-old patient needs rectal irrigations prior to surgery. What size foley catheter would you use?

1. 8 fr
2. 10 fr
3. 16 fr
4. 24 fr

Bowel Prep: Rectal Irrigations

Supplies:

- 16 fr silicone foley for children under 1 year
- 24 fr silicone foley for children over 1 year
- Water soluble lubricant
- 60 ml cath tip syringe
- 2 nonsterile basins
- Normal Saline (gently warmed)

Volume: Give 10-20 ml at a time and allow to drain.
Repeat until stool is clear

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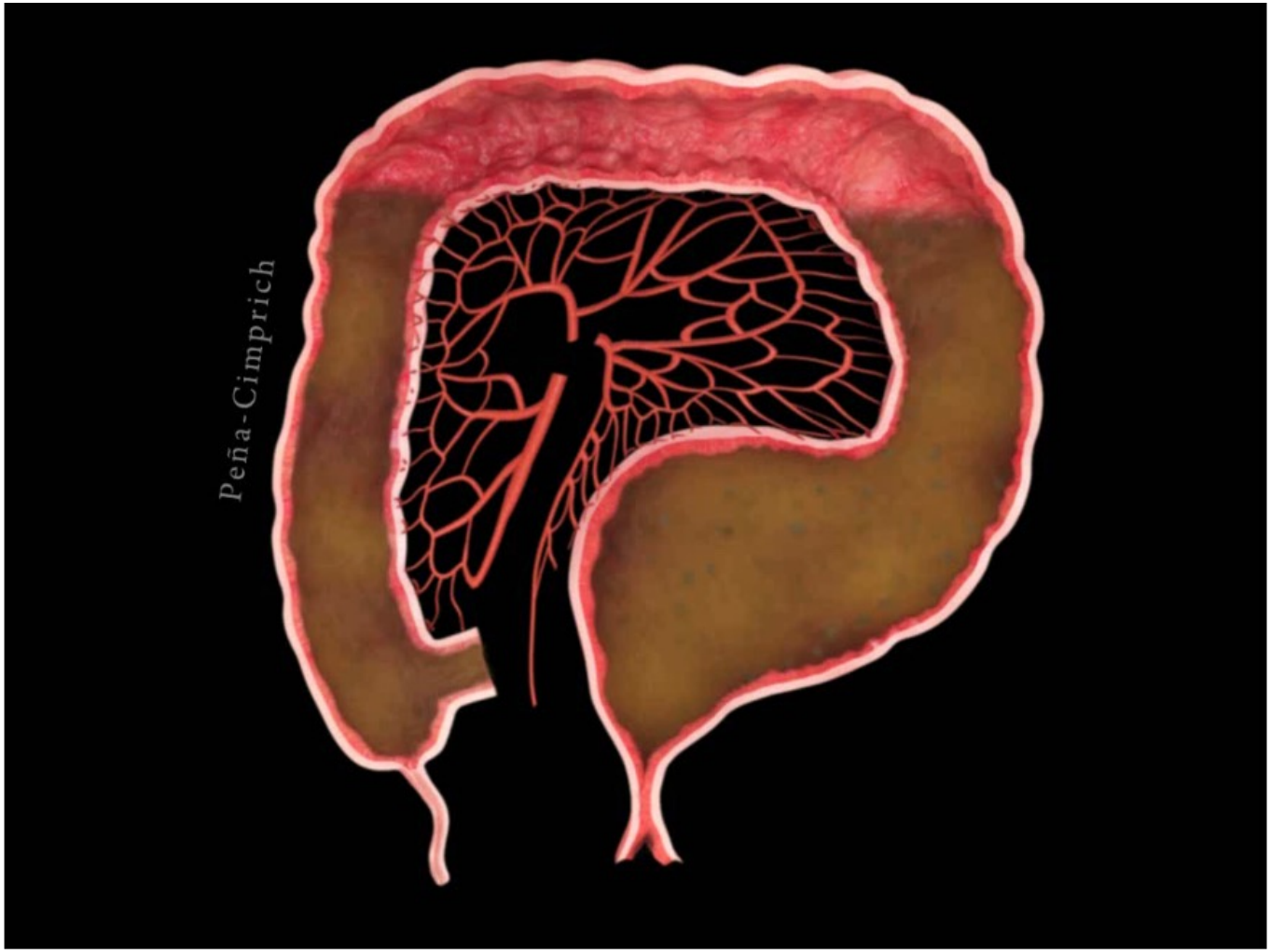

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Stoma Irrigations

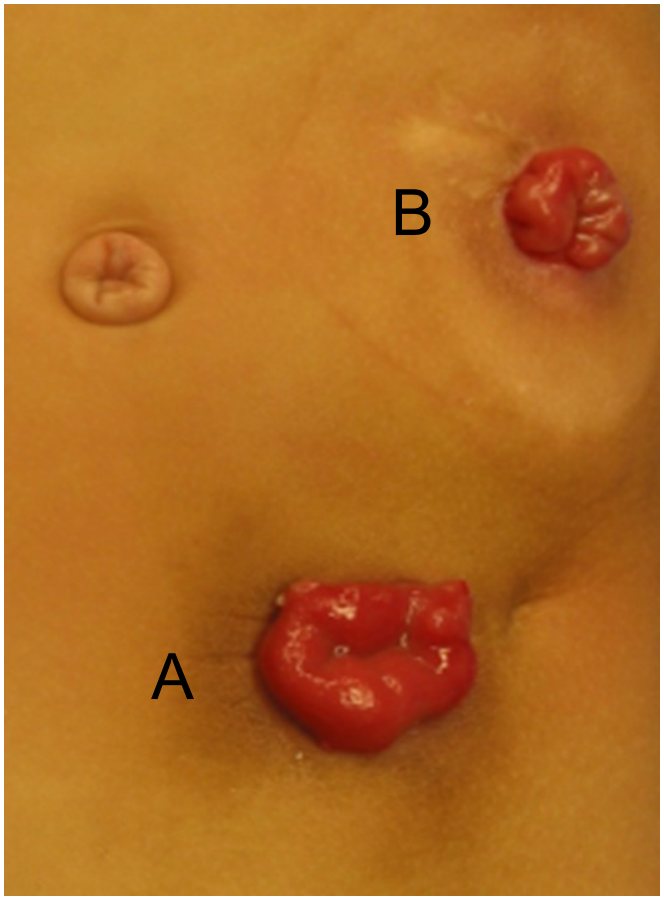
Supplies:

- 14 or 16 french silicone foley catheter (size may vary)
- Water soluble lubricant
- 60 ml cath tip syringe
- Normal Saline
- 2 kidney shaped emesis basins

Proximal: 10 ml at a time until stool is clear (max 100 ml)

Distal: 10 ml at a time to clear mucous

Stoma Irrigation Example



Which stoma is the proximal stoma?

1) A
2) B
3) I don't know

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Surgical Repairs

- P-Posterior
- S-Sagittal
- A-Ano
- R-Recto
- P-Plasty

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PSARVUP

- P-Posterior
- S-Sagittal
- A-Ano
- R-Recto
- V-Vaginal
- U-Urethra
- P-Plasty

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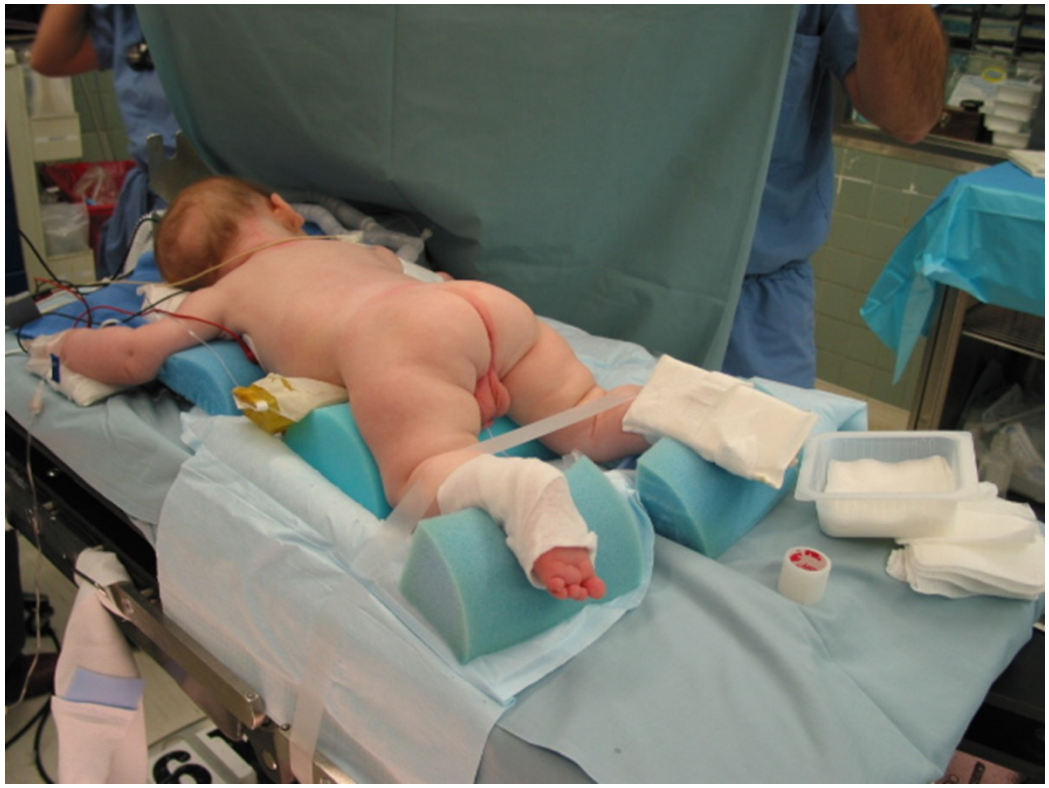
Surgery: PSARP/PSARVUP

- Cefoxitin on call for OR (dosing 40 mg/kg and repeat every 2 hr intraoperatively)

Surgery: PSARP/PSARVUP



Why is it important to understand positioning?

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After a PSARP/PSARVUP, how often should you spread the buttocks to assess the incision?

1. Once a shift
2. Once a day
3. Never

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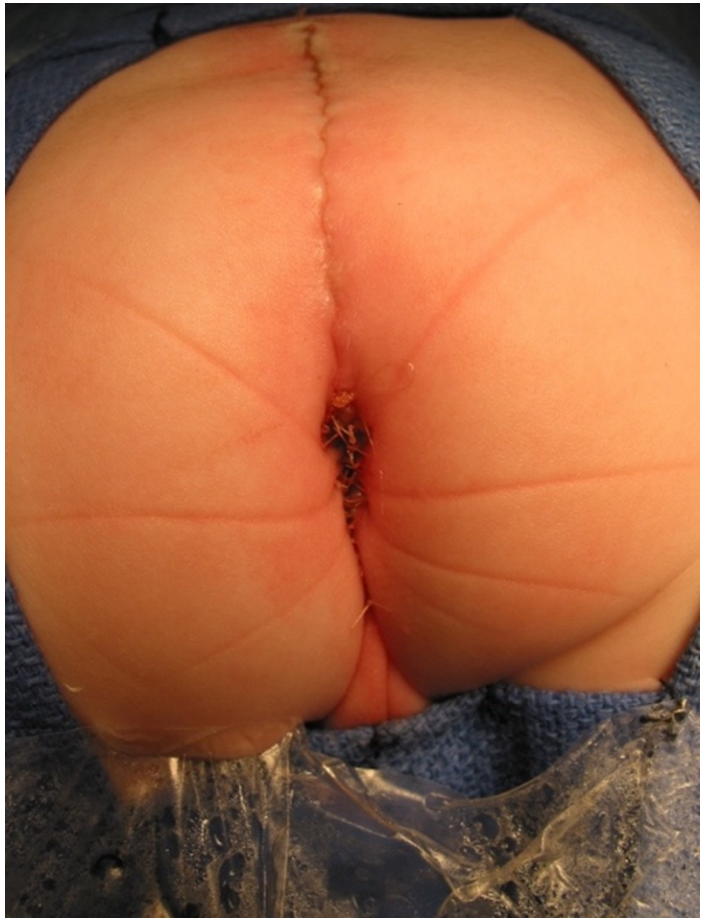
Surgery: PSARP/PSARVUP



Post-op Care: PSARP/PSARVUP

"Critical Foley"

Cloaca or rectourethral fistula repair

- Any issues with the Foley contact – Colorectal team/Urology.
- Foley should not be removed or attempt to be replaced if dislodged
- Often these patients are discharged home with Foley catheter
- Having a Foley can cause bladder spasm

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Post-op Care: PSARP/PSARVUP

Peri-rectal incision care

- DO NOT spread the buttocks to assess the incision
- Wet gauze- no baby wipes
- Pat don't wipe
- Do not spread legs
- No rectal temps/meds
- If passes stool, can use 60-ml syringe to cleanse perineum

Post-op Care: PSARP/PSARVUP

Peri-rectal Incision Care

- Double diapering- one size larger on outside
- Bacitracin three times a day for 5 days
  - - don’t apply with every diaper change because it will weaken the suture line
  - Gauze can be folded in half and ointment applied to gauze for application
- During immediate post-op period may be helpful to have two people for diaper changes

Post- op Care: PSARP/PSARVUP

Post-op with ostomy (no laparotomy)

- Eat the same day
- Transition pain medications to oral once patient is eating and has bowel function
- Discharge after 24 hours of antibiotics, eating, drinking, ambulating (if applicable), voiding or parents comfortable with foley care, and pain controlled

Post-op Care: PSARP/PSARVUP

Post-op without an ostomy

- PICC line placed during surgery
- 7 days NPO with TPN and Lipids to allow incision to heal with minimal stool
- Even though NPO, patient will still pass mucoid stool- this is normal

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Post-op Care: PSARP/PSARVUP

- On day 7, surgeon will look at incision and determine if able to advance diet
- If incision looks well healed, may advance diet as tolerated and TPN will be discontinued if patient is eating well
- If incision looks irritated or poorly healed, patient will continue with NPO for a couple more days

Post- op Care: PSARP

without colostomy or colostomy closure

Preventing Diaper Rash

- Barrier creams such as Desitin, Criticaid, Sensicare, “crusting” for open areas
- If colostomy closure patient, apply thick barrier cream POD 1 (before stooling). Aquaphor/Vaseline will not be enough
- Apply barrier creams like “ frosting a cake” but avoid incision
- Remove all diaper cream once a day to assess skin. Otherwise only wipe off soiled areas

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Hirschsprung Disease

What is it?

- Abnormal function of the colon caused by lack of ganglion cells
- Areas without ganglion cells or aganglionic segments are unable to relax and then causes obstruction
- The length of aganglionic segment varies from patient to patient

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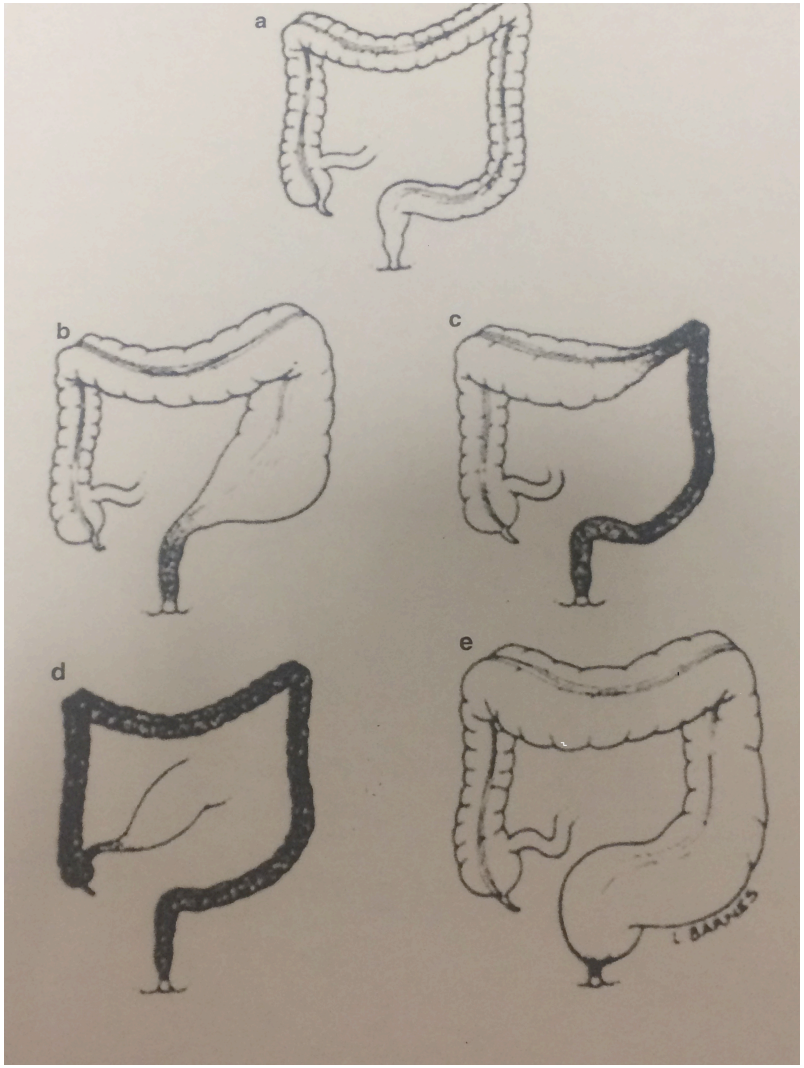
Hirschsprung Disease



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Hirschsprung Disease Diagnosis

- Contrast enema
- Rectal biopsy

Hirschsprung Disease

Pre-operative Treatment

- Rectal irrigations=SAVE LIVES
  - Do them three times daily and as needed to prevent Hirschsprung associated enterocolitis

Hirschsprung Disease

Post-op Transanal Resection

- Nothing by mouth for 7 days (day 5 irrigate if distended)
- PICC with TPN and Lipids
- Broad spectrum antibiotics for 24 hours

(ceftriaxone 24 hr, flagyl longterm)

Hirschsprung Disease

Post-Op Pull Through: Rectal Irrigation

- Performed by surgeon/surgery team first (not nursing)
- Fresh anastomosis
- Catheter should pass the anastomosis easily and enter the dilated bowel.

Hirschsprung Disease

Postoperative Teaching for Families

- Signs of enterocolitis
- Demonstrate Rectal irrigations and have supplies available (this can be emergent)
- Often mistaken by pediatricians as gastroenteritis.

Hirschsprung Disease

After discharge

- Three times daily rectal irrigation + Flagyl for 1 month
- Twice daily rectal irrigation + Flagyl for 1 month
- Once daily rectal irrigation + Flagyl for 1 month

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After discharge, a 5 y/o with a h/o Hirschsprung disease develops fever, abdominal distension, and vomiting. What should you instruct the parent to do first?

1. Call the pediatrician
2. Go to the Emergency room
3. Start rectal irrigations

Hirschsprung Disease

Enterocolitis Presentation

- Abdominal distention
- Vomiting
- Fever
- Abdominal film shows signs of dilated colon with gas
- Higher likelihood with younger patients (unsure why)

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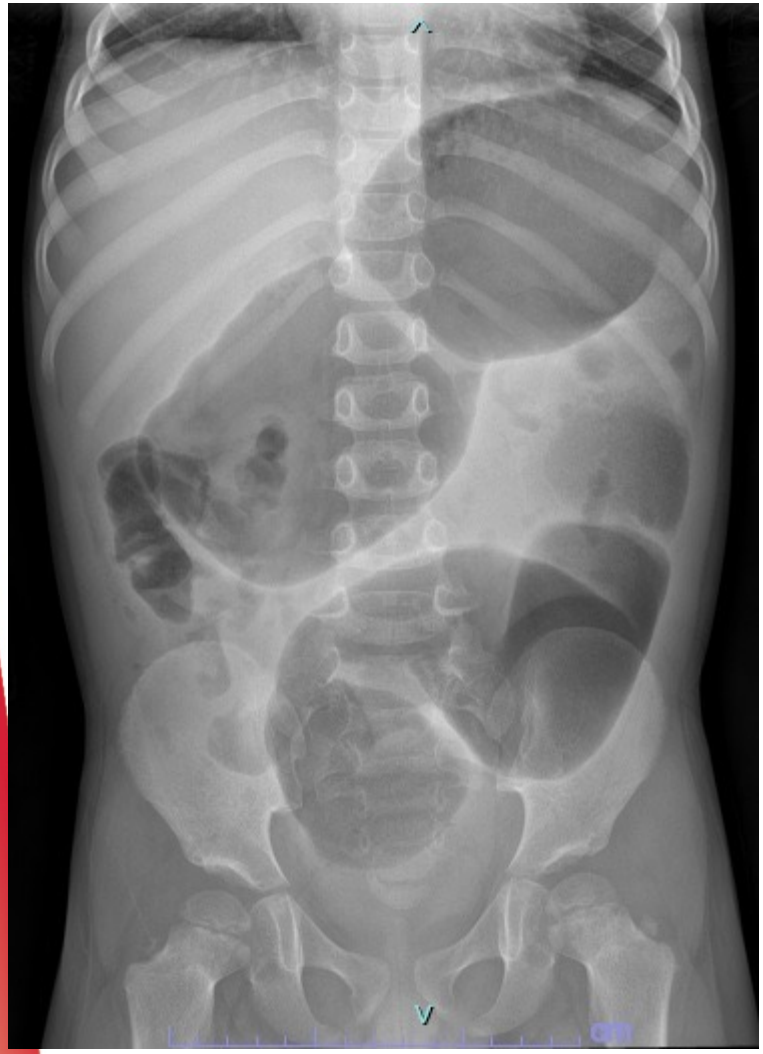
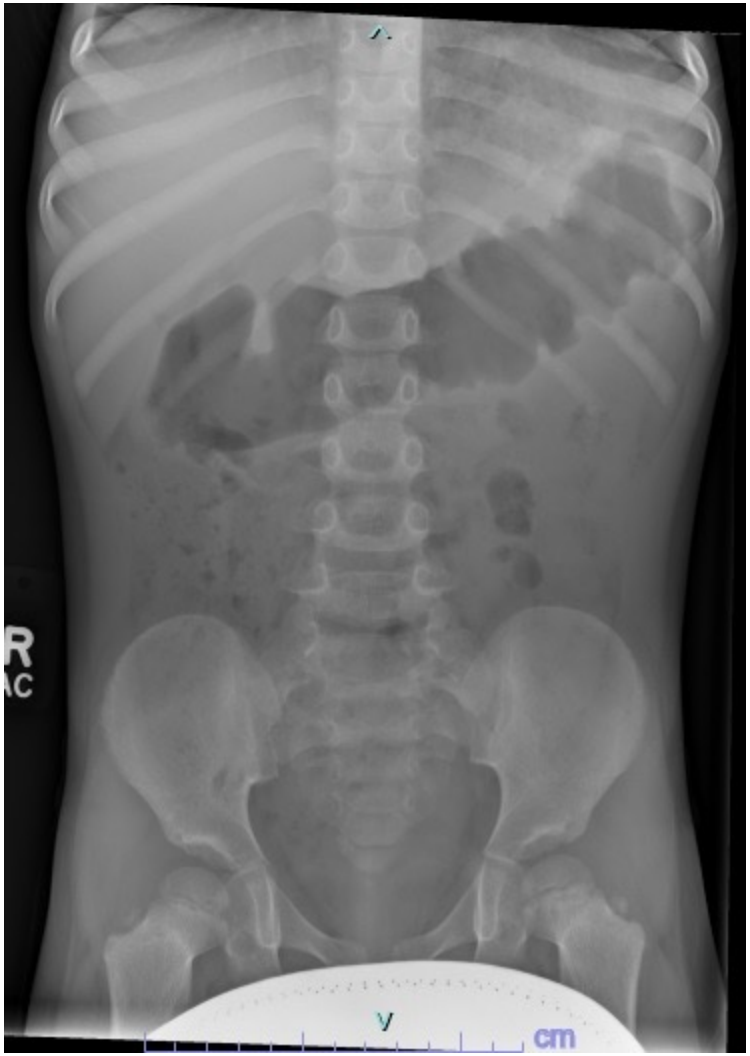
Hirschsprung Disease



Pre- irrigation



Post- irrigation

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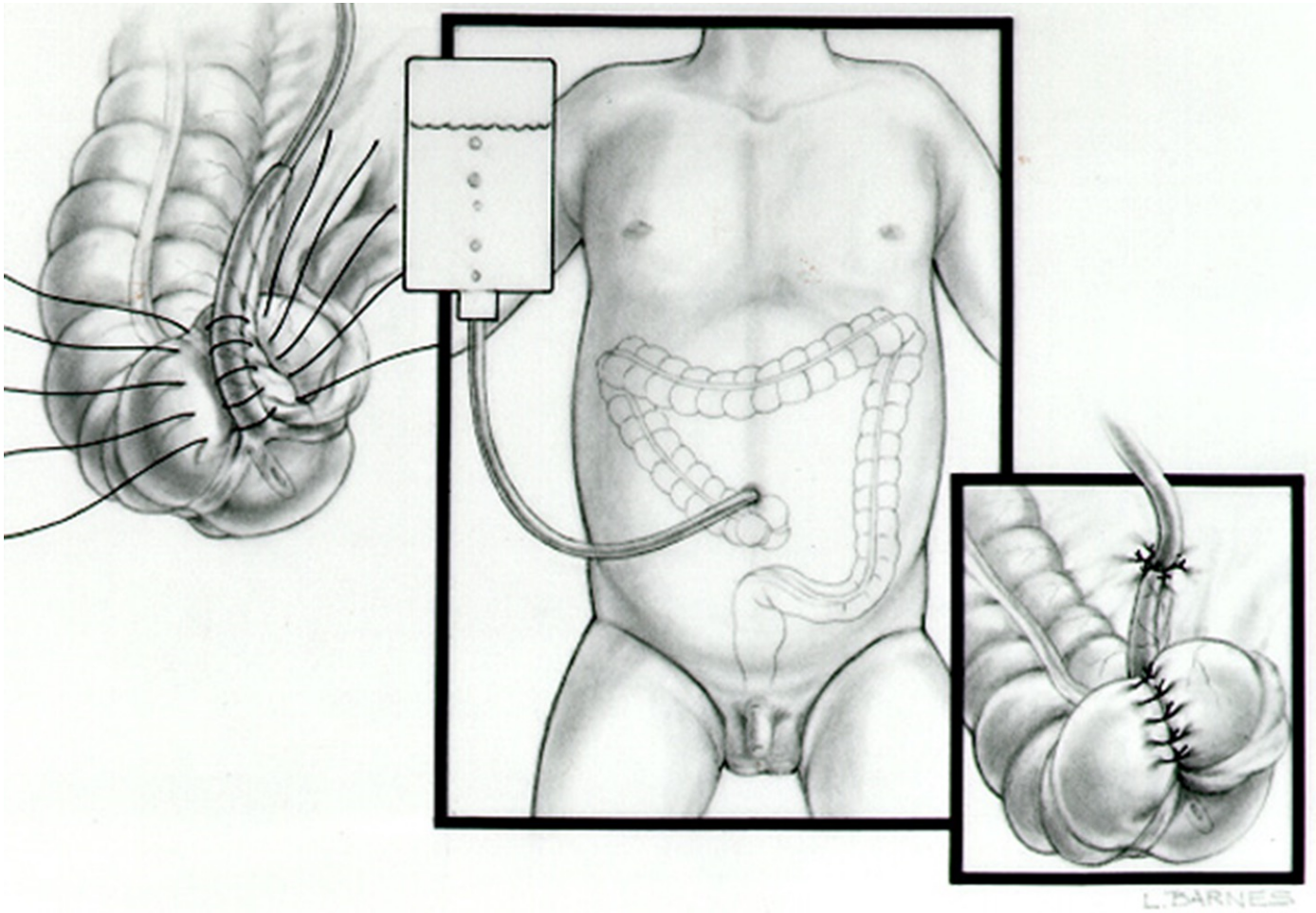
Malone/Neo-Malone



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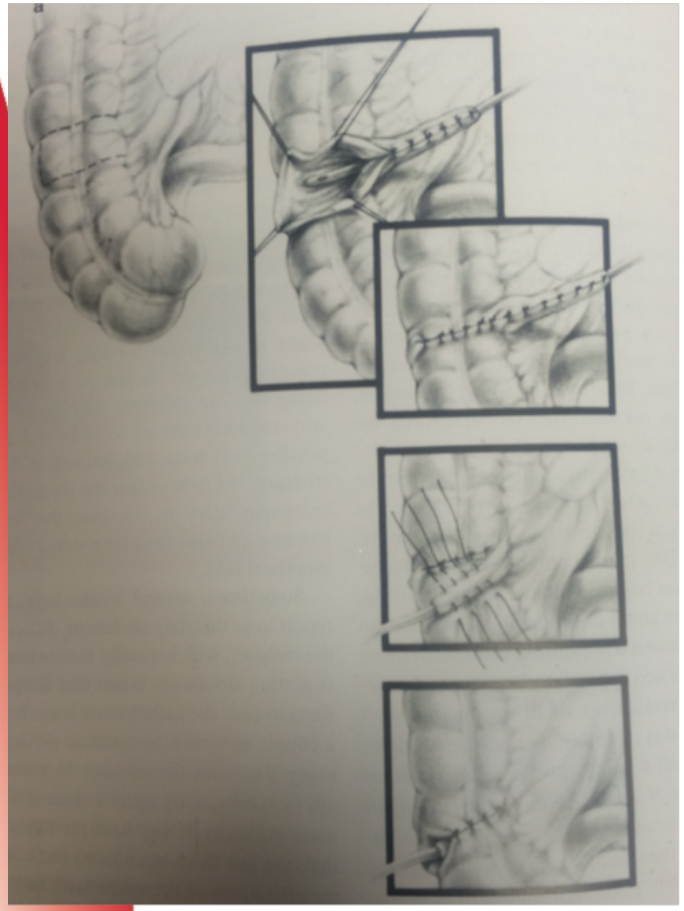
Malone

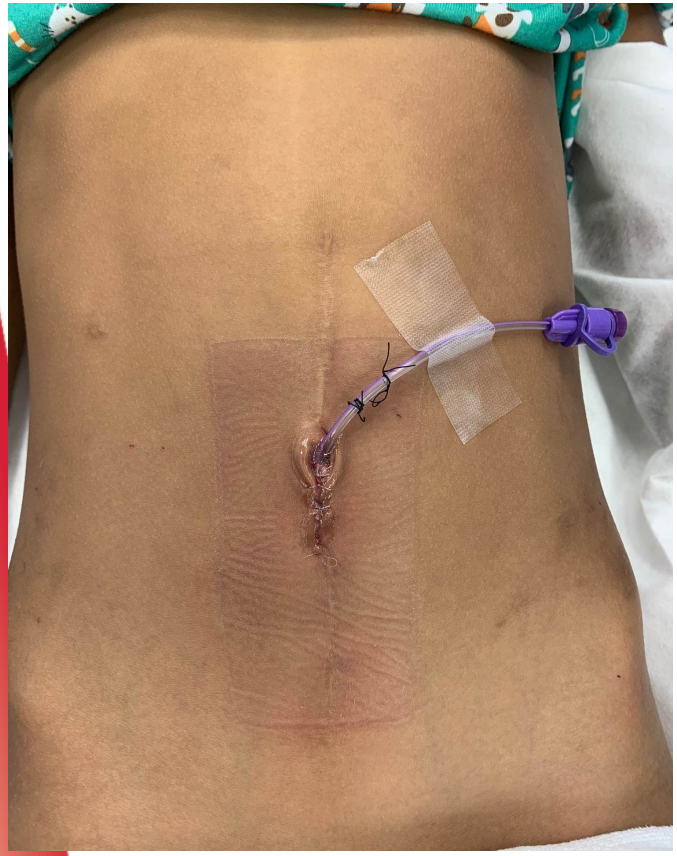
- Only placed once patient has an effective bowel regimen via rectal enemas
- No full bowel prep is required pre-operatively
- Can quickly advance diet after surgery
- Enemas ”flush” may be administered the day after surgery though the catheter
- 1st Malone flush once tolerating regular diet

Neo-Malone



- Part of the colon is used to create the Neo-Malone when native appendix is unable to be used
- Full bowel prep required
- Midline abdominal incision
- *Sometimes X-ray* to see where tip of catheter is located to determine rectal versus antegrade enemas.
- After 1 month can administer enema at full strength via Neo-Malone depending on tube location.

Post-op Care: Malone/Neomalone



- Catheter will remain in place for 4 weeks
- Catheter will have suture holding it in place
- Tubing should be secured to abdomen with tegaderm or other adhesive dressing
- Do not cover the insertion site with occlusive dressing as this seals in moisture

Post-op Care: Malone/Neo-Malone

Emergency Malone Supplies

- 8 Fr feeding tube
- 8 Fr coude cath
- 6 Fr straight cath
- Lubricant
- Tegaderm
- 10 mL slip tip or ENfit syringe
- Cap
- Adapt a cath

Post-op Malone/Neo-Malone

- Every patient should have this kit assembled and at the bedside immediately post-op
- These are all the supplies needed if the Malone tube would inadvertently come out
- Patients and families should receive teaching about what to do if the catheter comes out prior to discharge
- This kit should be sent home with each patient

Malone/Neo-Malone Flush Administration

- Flush will be comprised of Normal Saline and usually some sort of irritant.

  (glycerin, castile soap or a fleet)
- Assemble supplies and pour into a gravity feeding back
- Prime tubing
- Patient should sit on toilet with collection hat already in place for measurement

Malone/Neo-Malone Flush Administration cont'd

- Gravity feeding bag will be hung on the pole and will be attached to the end of the catheter in the umbilicus
- Infuse the flush over 10-15 minutes. This allows time for the contents of the colon to be agitated

Malone/Neo-Malone Administration

- After the enema is in, the patient will sit on the toilet for another 30-45 while they empty their colon
- The entire process typically takes an hour
- Make sure to document total volume of flush and total volume of stool output
- The goal is to have more output than input

Malone/Neo-Malone Flush Administration cont'd

Tips and Tricks

- Flush the catheter for patency
- Prime the tubing with NS first
- Watch drip chamber because sometimes after glycerin passes the rate changes quickly
- To avoid cramping, gently warm the saline first or slow down the rate with infusion

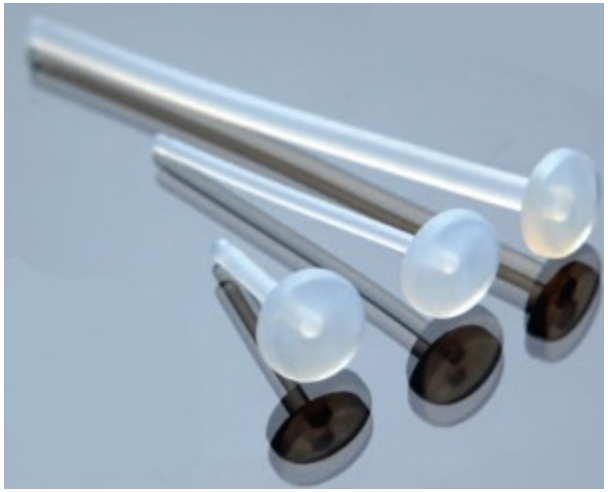
Post-op Follow up

- PSARP without colostomy
  - Start anal dilations 14 days post-op and abdominal X-ray in clinic
- PSARP/ PSARVUP with colostomy
  Male: remove foley in one week
  - Cloaca: remove foley in 2 wks
  - Both start anal dilations 14 days post-operatively

Post-op Follow up

Malone/Neo-malone

- Follow up in clinic in 4 weeks and get abdominal X-ray
- Access Malone site
- Ace stopper 6 months



Pull-through

f/u in clinic in 4 weeks and get KUB

Digital rectal exam and then start anal dilations

Interdisciplinary Care

- Often the Colorectal patients required consultations by other services while in the hospital
- Acute Pain Service, Cardiology, Nephrology, Urology, Infectious Disease, Gastroenterology, Pediatric and Adolescent Gynecology, Interventional Radiology, Neurology
- Psychology and Social Work
- Nutrition

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Questions?

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Reference

Peña, A. & Bischoff, A. (2015). Surgical treatment of colorectal problems in children. New York: Springer